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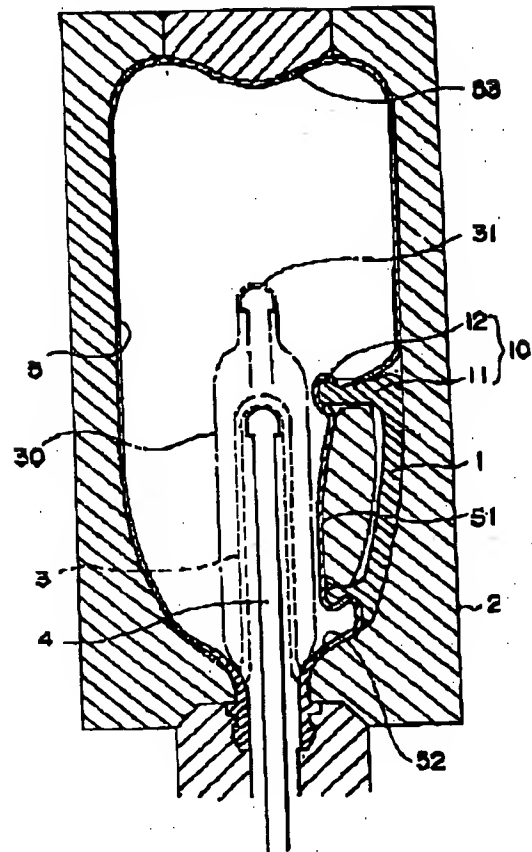
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TITLE : PRODUCTION OF HANDLED  
 POLYESTER BOTTLE



ABSTRACT : PURPOSE: To produce a handled polyester bottle stable in the fitting state of a handle.

CONSTITUTION: A preform 3 heated to molding temp. is axially stretched in a blow mold 2 having a handle 1 preliminarily provided thereto as a separate member by a stretch rod 4 and subjected to biaxially stretching blow molding in its diameter direction by blowing a pressure fluid into the mold 2 to attach the handle so as to enclose a handle attaching part 10 by a bottle wall 30. In this case, the pressure fluid is blown into the mold 2 simultaneously with the start of axial stretching or within one sec from the start of stretching.

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**DETAILED DESCRIPTION**

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**[Detailed Description of the Invention]****[0001]**

**[Industrial Application]** This invention relates to the manufacture approach of a bundle deposit polyester bottle of having attached the handle of another object in the body of a bottle.

**[0002]**

**[Description of the Prior Art]** Within the blow molding mold which equipped with the handle of another object beforehand as the manufacture approach of a bundle deposit polyester bottle from the former, while extending preforming heated to molding temperature to shaft orientations with a stretch rod, biaxial stretching blow molding of it is carried out by the entrainment of a pressure flow object, and the manufacture approach of a bundle deposit polyester bottle of attaching it as the attachment section on a knob is wrapped in with a bottle wall is proposed.

**[0003]**

**[Problem(s) to be Solved by the Invention]** However, by the manufacture approach of the above-mentioned conventional bundle deposit polyester bottle, there was a fault that a fitting condition on a knob is unstable, it blew out during shaping or there was a possibility that a defective may be generated.

**[0004]**

**[Means for Solving the Problem]** Within the blow molding mold which this invention uses the above-mentioned fault as a solution plug, and equipped with the handle of another object beforehand While extending preforming heated to molding temperature to shaft orientations with a stretch rod, biaxial stretching blow molding of it is carried out in the direction of a path by the entrainment of a pressure flow object. In attaching, as the attachment section on a knob is wrapped in with a bottle wall, it is the manufacture approach of the bundle deposit polyester bottle characterized by performing the entrainment of a pressure flow object within 1 second after the extension initiation and coincidence to shaft orientations, or extension initiation.

**[0005]** According to this invention, the bundle deposit polyester bottle by which the fitting condition on a knob was stabilized by easy conditioning of performing the entrainment of a pressure flow object within 1 second after the extension initiation and coincidence to shaft orientations, or extension initiation can be manufactured.

**[0006]** Hereafter, this invention is explained along with an accompanying drawing.

**[0007]** The cross-section front view and drawing 2 which show an example of the equipment with which drawing 1 enforces the manufacture approach of the bundle deposit polyester bottle of this invention are drawing showing the time amount change SR of the extension distance of shaft orientations with a stretch rod, and the time amount change P1 and P2 of the entrainment pressure of a pressure flow object in the manufacture approach of the bundle deposit polyester bottle of this invention.

**[0008]** As shown in drawing 1 and drawing 2, this invention within the blow molding mold 2 which equipped with the handle 1 of another object beforehand While extending the preforming 3 heated to molding temperature to shaft orientations with the stretch rod 4, biaxial stretching blow molding of it is carried out in the direction of a path by the entrainment of a pressure flow object. In attaching, as the attachment section 10 on a knob is wrapped in with the bottle wall 30, it is the manufacture approach of the bundle deposit polyester bottle characterized by performing the entrainment of a pressure flow object within 1 second after the extension initiation and coincidence to shaft orientations, or extension initiation.

**[0009]** That what is necessary is just to fabricate plastics, such as polypropylene, independently [ the body 5 of a bottle ] with injection molding etc., in the example shown in drawing 1, the handle 1 of another object is attached up and down, forms an arm 11, attaches it at the tip of this installation arm 11, and has formed the projection 12.

**[0010]** In order to manufacture the bundle deposit polyester bottle of this invention, as shown in drawing 1, the blow molding mold 2 which has a mold inside configuration equivalent to the body 5 of a bottle in which the \*\* crevice 51 with bundle net income was formed on the up side face of the body 5 of a bottle is prepared, and the

handle 1 beforehand fabricated with injection molding etc. is set to the mold face equivalent to the \*\* crevice 51 with bundle net income.

[0011] At this time, the tip of the installation arm 11 and the installation projection 12 are set so that it may project inside a blow molding mold.

[0012] And as the attachment section 10 which consists of a tip of the installation arm 11 and installation projection 12 is wrapped in with the bottle wall 30, it is attached, at the same time it extends in the direction of a path and makes a mold inside meet by blowing high-pressure air etc., while setting the preforming 3 heated, for example in extension temperature of 90-120 degrees C in said blow molding mold 2 and extending to shaft orientations with the stretch rod 4.

[0013] If time amount  $t_d$  from  $t_1$  to the entrainment  $t_2$  of a pressure flow object is made into 0 - 1 second when extension is started by shaft orientations with the stretch rod 4 as shown in drawing 2, the bundle deposit polyester bottle by which the fitting condition on a knob was stabilized can be manufactured.

[0014] As this reason, time amount  $t_d$  is considered as minus from 0, namely, if the entrainment initiation  $t_2$  of a pressure flow object is made to precede rather than the extension initiation  $t_1$  of shaft orientations with the stretch rod 4, in order that extension of the direction of a path with a pressure flow object may arise early and the bottle wall 30 may turn to the bottle shoulder 52 previously, the attachment section 10 located in the direction near the bottle bottom 53 cannot be covered enough.

[0015] On the other hand, if time amount  $t_d$  is longer than 1 second, since it will be greatly extended by shaft orientations, the bottle walls 30 gather for a bottle pars basilaris ossis occipitalis, and the attachment section 10 located in the direction near especially the bottle shoulder 52 cannot be covered enough.

[0016] On the other hand, if time amount  $t_d$  is made into 0 - 1 second, since a bottle wall will be distributed with sufficient balance, the up-and-down attachment section 10 can be wrapped in enough, and it is thought that the bundle deposit polyester bottle by which the fitting condition on a knob was stabilized can be manufactured.

[0017] If time amount  $t_d$  is furthermore made into 0.1 - 1 second, while preforming will be extended by shaft orientations, since there is effectiveness which prevents a core shifting in the process which the stretch rod 4 contacts and supports at the core 31 of preforming, and fabricates a bottle, it is desirable.

[0018] In drawing 2, extension of shaft orientations with the stretch rod 4 expresses the center position of the bottle pars basilaris ossis occipitalis [ in / for the pars-basilaris-ossis-occipitalis center position of the preforming 3 in drawing 1 / L0 and drawing 1 ] 53 as L10, respectively, and its second is desirable in 10-100cm / as an extension rate of shaft orientations.

[0019] As the entrainment of a pressure flow object is shown in drawing 2, about 0.1 - 1 second from the initiation  $t_2$  to the initiation  $t_{21}$  of the secondary entrainment P2 is low voltage, for example, 1-20kg/cm<sup>2</sup>, comparatively. It considers as the primary entrainment P1, and it is high pressure from  $t_{21}$  to P1 succeedingly, and is 10-40kg/cm<sup>2</sup>. It is still more desirable when it is the two-step entrainment made into the secondary entrainment P2.

[0020] As an alternate long and short dash line shows to drawing 1, this reason is in the condition slightly extended in the direction of a path by the primary entrainment P1, and since the bottle wall 30 is distributed with sufficient balance by extending to shaft orientations with the stretch rod 4, it can wrap in the attachment section 10 on a knob good with the bottle wall 30 the high-pressure secondary entrainment P2.

[0021] In this case, when the high-pressure secondary entrainment P2 is performed to P3 at the time of termination of the shaft-orientations extension with the stretch rod 4, there is an advantage that a heart gap hardly arises.

[0022]

[Effect of the Invention] Within the blow molding mold which equipped with the handle of another object beforehand, this invention carries out biaxial stretching blow molding of it in the direction of a path by the entrainment of a pressure flow object while extending preforming heated to molding temperature to shaft orientations with a stretch rod. In attaching, as the attachment section on a knob is wrapped in with a bottle wall. Since it is the manufacture approach of the bundle deposit polyester bottle characterized by performing the entrainment of a pressure flow object within 1 second from the extension initiation and coincidence to shaft orientations, or extension initiation, the bundle deposit polyester bottle by which the fitting condition on a knob was stabilized can be manufactured.

[Translation done.]

